Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-18. (Canceled)

Claim 19. (New) A process for producing a resin encapsulated semiconductor device comprising a semiconductor device and a cured product of a flame retardant epoxy resin composition, comprising the steps of:

molding on said semiconductor device a flame retardant epoxy resin composition comprising (A) a halogen-free epoxy resin with at least 2 epoxy groups within each molecule, (B) a curing agent, and (C) a foaming agent; and

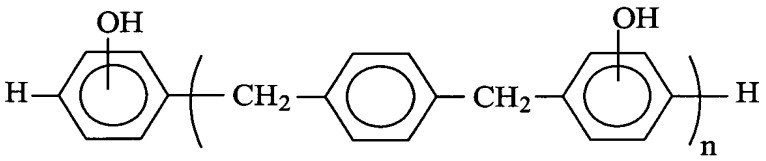
curing the molded composition to form said cured product to encapsulate the semiconductor device within the cured product.

Claim 20. (New) The process according to claim 19, wherein the epoxy resin of the component (A) comprises a bisphenol A type epoxy resin, a bisphenol F type epoxy resin, a bisphenol S type epoxy resin, a phenol novolak type epoxy resin, a cresol novolak type epoxy resin, a naphthalene type epoxy resin, a biphenyl type epoxy resin, an N-glycidyl compound derived from an aromatic amine and a heterocyclic nitrogen base, or a combination of two or more thereof.

Claim 21. (New) The process according to claim 19, wherein the curing agent (B) comprises a C_2 to C_{20} straight chain aliphatic diamine, a straight chain aliphatic polyvalent

amine, an alicyclic amine, an aromatic amine, a dicyanamide, a resol type phenol resin, a novolak type resin, a phenol resin, a polyoxystyrene, an acid anhydride, or a combination of two or more thereof.

Claim 22. (New) The composition according to claim 19, wherein the curing agent (B) comprises a phenol aralkyl resin having a structure represented by the formula:



wherein n is a number that provides a hydroxyl group equivalence of 175 g/eq.

Claim 23. (New) The process according to claim 19, wherein the curing agent (B) is a compound with at least two phenolic hydroxyl groups within the molecule.

Claim 24. (New) The process according to claim 23, wherein said compound with at least two phenolic hydroxyl groups is a novolak type phenol resin, a resol type phenol resin, a polyoxystyrenes, a phenol aralkyl resin, or a combination of two or more.

Claim 25. (New) The process according to claim 19, wherein the foaming agent (C) decomposes at a temperature of at least 180° C.

Claim 26. (New) The process according to claim 25, wherein the foaming agent (C) decomposes at a temperature of at least 200° C.

Claim 27. (New) The process according to claim 26, wherein the foaming agent (C) decomposes at a temperature of at least 250° C.

Claim 28. (New) The process according to claim 23, wherein a quantity of gas that is generated from said foaming agent (C) is at least 40 ml/g.

Claim 29. (New) The process according to claim 28, wherein a quantity of gas that is generated from said foaming agent (C) is at least 80 ml/g.

Claim 30. (New) The process according to claim 29, wherein a quantity of gas that is generated from said foaming agent (C) is at least 150 ml/g.

Claim 31. (New) The process according to claim 19, wherein the foaming agent (C) decomposes at a temperature of at least 200° C and a quantity of gas that is generated from said foaming agent (C) is at least 40 ml/g.

Claim 32. (New) The process according to claim 19, wherein said foaming agent (C) comprises azodicarbonamide, azobistetrazole diaminoguanidine, azobistetrazole guanidine, 5-phenyltetrazole, bistetrazole guanidine, bistetrazole piperazine, bistetrazole diammonium, N,N'-dinitrosopentamethylene tetramine, hydrazodicarbonamide, or a combination of two or more thereof.

Claim 33. (New) The process according to claim 19, wherein said curing agent (B) is present in a quantity which produces a ratio of the hydroxyl group equivalence of the component (B) relative to the epoxy equivalence of the epoxy resin of the component (A) which falls within a range from approximately 0.5 to 2.0.

Claim 34. (New) The process according to claim 19, wherein said curing agent (B) is present in a quantity from 0.01 to 50% by weight based on the whole composition.

Claim 35. (New) The process according to claim 19, further comprising (D) a filler.

Claim 36. (New) A process for producing a resin encapsulated semiconductor device comprising a semiconductor device and a cured product of a semiconductor encapsulating material, comprising the steps of:

molding on said semiconductor device a semiconductor encapsulating material comprising a composition comprising (A) a halogen-free epoxy resin with at least 2 epoxy groups within each molecule, (B) a curing agent, and (C) a foaming agent; and

curing the molded composition to form said cured product to encapsulate the semiconductor device within the cured product.

Claim 37. (New) A resin encapsulated semiconductor device produced by the process according to claim 19 encapsulating said semiconductor device.